

Low Embodied Carbon Concrete Standards for all GSA Projects

March 2022 version

1. The [prime contractor] shall provide a product-specific cradle-to-gate Type III environmental product declaration (**EPD**) for each concrete mix design specified in the contract and used at the project, using NSF International's [product category rule for concrete](#). Please send EPD(s) with each concrete mix batch design (including type [e.g. standard or lightweight mix] and volume) to embodiedcarbon@gsa.gov, and upload the submittals into GSA's project management information system.
2. The [prime contractor] shall provide **low embodied carbon concrete** that meets the global warming potential (GWP) limits of the table below, for concrete of the mix type and strength class.

	Maximum Global Warming Potential Limits for GSA Low Embodied Carbon Concrete (kilograms of carbon dioxide equivalent per cubic meter - CO ₂ e kg/m ³)		
Specified compressive strength (f'c in PSI)	Standard Mix	High Early Strength	Lightweight
up to 2499	242	326	462
2500-3499	306	413	462
3500-4499	346	466	501
4500-5499	385	519	540
5500-6499	404	546	N/A
6500 and up	414	544	N/A

These numbers reflect a 20% reduction from GWP (CO₂e) limits in proposed code language: "[Lifecycle GHG Impacts in Building Codes](#)" by the New Buildings Institute, January 2022.

3. These requirements apply to all GSA projects that use at least ten (10) cubic yards of concrete.
4. If it is not feasible to meet GSA's EPD requirement or GWP limits, the [prime contractor] shall ask the GSA project manager to request a [P100 waiver](#).
 - a. The [prime contractor] shall outline and provide evidence of the specific circumstances that make compliance infeasible. For example, the only concrete suppliers within the maximum transport range for the mix design:
 - i. are small businesses that have not yet invested in EPDs; or
 - ii. do not yet offer mixes that meet GSA's GWP limits, e.g. because lower-carbon materials are unavailable, or do not meet specific client-driven performance requirements.
 - b. Any requests for waivers from the GWP limits must include the strategies, if any, that will be used to reduce GWP to the extent feasible. Such strategies include, but are not limited to, the use of alternative cements, supplementary cementitious materials, or alternative aggregates.
 - c. For each concrete mix for which GSA has granted a waiver from the EPD requirement, the [prime contractor] shall send a GWP estimate generated with a tool such as [ZGF's LCA Tool](#), [Athena IE](#), or the Federal Highway Administration's [LCA Pave Tool](#) to embodiedcarbon@gsa.gov.
 - d. GSA will respond to each complete P100 waiver request with a decision or a request for more detail within ten (10) business days. A complete waiver request is deemed granted if no response is provided within that time.